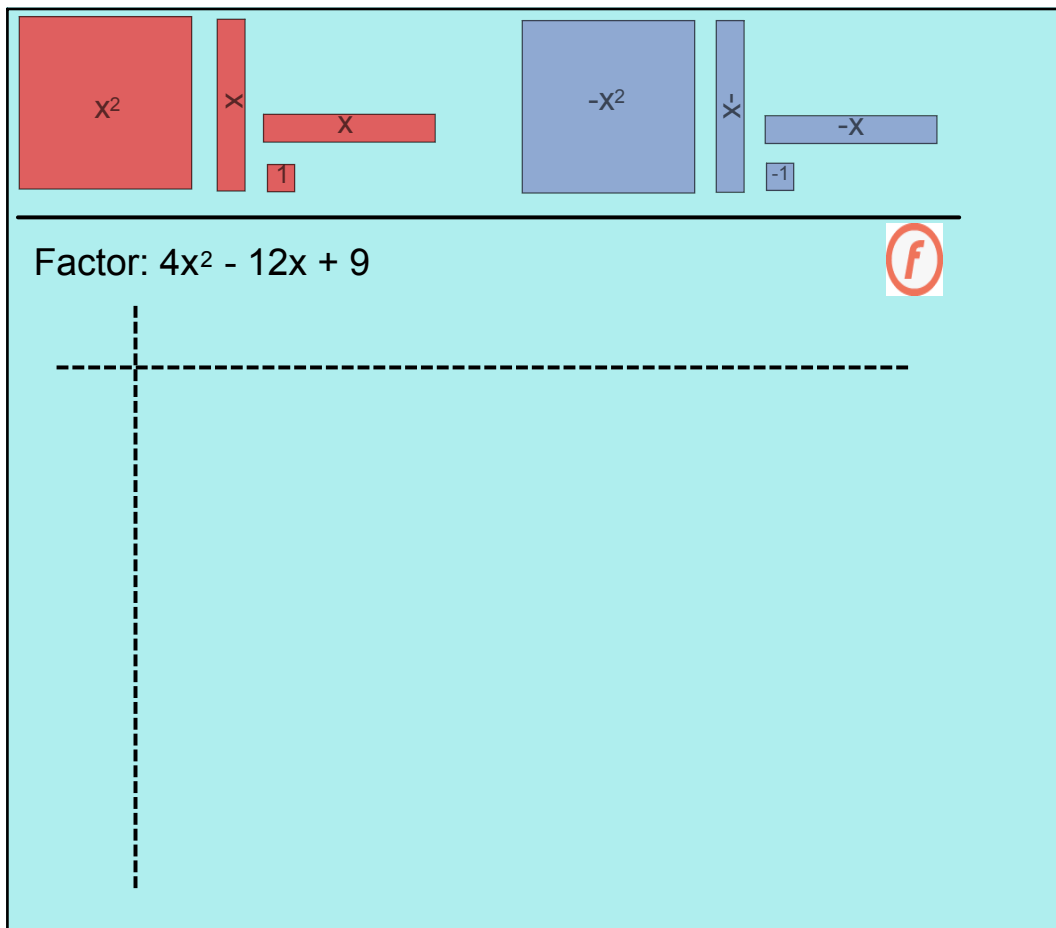


Mar 25-8:02 AM

Oct 30-11:08 PM

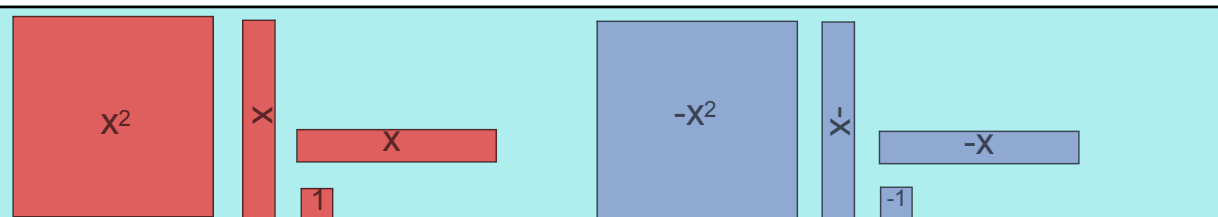


Factor:  $4x^2 - 12x + 9$

Mar 25-8:02 AM

Factor  $4x^2 - 12x + 9$  algebraically

Oct 30-11:09 PM



Factor:  $25x^2 - 30x + 9$

Mar 25-8:02 AM

### L8(4.5) Factoring Special Quadratics (Perfect Square Trinomials & Differences of 2 Squares)

#### 1. Perfect Square Trinomial

$$\begin{aligned} \text{(a) } a^2 + 2ab + b^2 &= (a + b)(a + b) \\ &= (a + b)^2 \end{aligned}$$

$$\begin{aligned} \text{(b) } a^2 - 2ab + b^2 &= (a - b)(a - b) \\ &= (a - b)^2 \end{aligned}$$

Note:

- I. Standard methods, such as **algebra-tiles** or **decomposition (SPI or MAN)** will also work, but may take longer.
- II. It is critical to check the **2ab** term to make sure you have a perfect square, or verify your final answer by expanding.

Mar 29-11:14 AM

Ex.1 Factor using a pattern (if possible)

(a)  $x^2 + 12x + 36$

(b)  $x^2 + 13x + 36$

(c)  $4x^2 - 20x + 25$

Mar 29-11:16 AM

Factor:  $4x^2 - 9$  f

Mar 25-8:02 AM

Factor  $4x^2 - 9$  algebraically

Oct 30-11:09 PM

$x^2$

$x$

$x$

$1$

$-x^2$

$-x$

$-x$

$-1$

Factor:  $9x^2 - 16$

$f$

Mar 25-8:02 AM

Factor  $9x^2 - 16$  algebraically

Oct 30-11:09 PM

## 2. Difference of Squares

$$\begin{aligned} a^2 - b^2 &= (a + b)(a - b) \\ &= (a - b)(a + b) \end{aligned}$$

(the order of the binomials does not matter)

Ex.2 Factor

(a)  $k^2 - 121$

(b)  $81m^2 - 144$

Mar 29-11:17 AM

Ex.3 Factor using a special pattern:

(a)  $25d^2 - 144$

(b)  $16x^2 + 24xy + 9y^2$

(c)  $18p^2q - 60pq + 50q$

(d)  $98a^2 - 32b^2$

Mar 26-8:24 AM

Ex.4: Factor  $x^2 - 10x + 25 - w^2$

Nov 5-8:34 AM

Assigned Work:

p. 230-231 # 3bc, 5, 6, 7, 10, 11, 14

Mar 26-9:06 AM